

Using Targeted Private School Choice to Eliminate Pockets of Persistent Urban Poverty: A Preliminary Assessment

John Merrifield
Institute for Objective Policy Assessment

Bart Danielsen
Environmentalists for Effective Education

1. Introduction

There has been a small but growing body of accidental evidence¹ that aligns with anecdotal evidence and intuition that private school choice expansion (PSCE) can be a much-needed, fast-acting economic development catalyst for persistent pockets of urban poverty. The alignment has been accidental. There have been no economic development effect-motivated school choice expansions. That's important for three reasons: 1) Evidence that private school choice expansion (PSCE) can quickly yield economic development and environmental benefits for areas of concentrated poverty could create a pathway around the political gridlock blocking genuine experiments in universal, low-restriction private school choice; 2) The PSCE-development connection raises a lot of questions that may need answers before the implied policy reforms can be optimized and gain widespread acceptance; and 3) Traditional-method-based attacks on persistent urban pockets of severe, concentrated poverty have a disappointing track record. To avoid de facto policy abandonment of large swathes of many cities,² we desperately need a dependable, quick, low-cost way to deliver place-focused economic development.

The purpose of the paper is to provide a preliminary assessment of the basis for proposals to use PSCE to quickly foster immediate economic development, including a sporadically active proposal for Atlanta's low-income communities (LIC). Section 2 discusses the connection between the readily observable family income stratification of urban areas³ (persistence of deep pockets of poverty) and variability in the quality of assigned traditional public schools (TPS). PSCE reduces the importance of that variability to families making residence choices. For examples, I use evidence from Atlanta, San

Antonio, and Memphis. Before section 4 describes the theory and evidence underlying our claim that PSCE is a promising alternative to traditional approaches to severe pockets of urban poverty, section 3 explains why we need an alternative. Section 5 explains the intellectual and political significance of the empirical evidence that would result from deployment of PSCE to attack pockets of persistent urban poverty. Many of the PSCE deployments would likely qualify as actual, modern low-restriction examples of universal private school choice. Section 6 briefly notes the potential environmental significance of poor-place-targeted choice expansion (PSCE).

2. Family Income Stratification of Urban Areas

Spatial sorting of families by income class is a sad fact of urban life, and variance in school quality is a widely asserted,⁴ key cause. Akst (1998) asserted this very common anecdote: When a family's oldest child reaches school-age, many families reluctantly leave an inner-city residence, or a home near where they work, for a home in the attendance area of a better school. A Doyle-Munro (1997) survey documented that such relocations were a major negative factor in Baltimore, especially given the correlation between income and race.

Because many scholars and policymakers dismiss or overlook a possibly significant connection between intra-city migration and TPS quality, there is much room for new work in this area. A McKoy and Vincent (2008) anthology chapter asserts, "Housing and Education: The Inextricable Link," but Brody's (2013) study of urban sprawl's effects and causes does not mention better schooling as a key reason for intra-city movement.⁵ Likewise, Resnik (2010) and Schaller (2019) discuss urban sprawl without citing TPS quality variability as a factor. Surprisingly, a specific focus on intra-city migration is rare. A search netted only one 21st century article.⁶ It did not mention school quality variability. Changed housing needs were seen as the key factor. A possible explanation is that education issues are often "separated from the study of urban development;"⁷ seen as just an effect of development, not a cause. In light of work such as McKoy and Vincent (2008),⁸ it's a perception we should correct or

reinforce. Consistent with Orfield (1996), Batchis (2010) notes that, “on the federal level, separate agencies are responsible for education and housing, and each addresses problems independently.”⁹

Realtors will confirm that the perceived relative quality of an area’s TPS is a key housing demand determinant. Regression analysis (econometrics) finds a significant association between widely perceived school quality¹⁰ and housing demand/value.¹¹ So, my hypothesis is that TPS quality variability is a key determinant of the ubiquitous urban area stratification by family income. The underlying theory is that competition for housing near what are the better TPS (typically, uniformly comprehensive schools), resulting adjustments in home prices,¹² often reinforced by exclusionary zoning,¹³ concentrate the lowest income families near the worst TPS.

Differences between the number of children aged 0-4 and 5-9 supports¹⁴ that hypothesis. We find that the areas with lower quality schools - usually poorer areas - *typically* have many more pre-school-age children than 5–9-year-old children. The asserted theory is that the reasons for childless couples to locate near attractions and jobs, plus the higher housing costs around better TPS, provide an incentive to delay considering relocation to areas with better TPS until they have children, and the oldest child nears school-age. Places with attractions for young adults and major employers readily replace (backfill) the leavers with young families with no children or only pre-school-age children. Because housing markets reflect the presence of better TPS, lower-income families are least able to relocate near them. Those differences are consistent with the common Akst (1998) anecdote, and the Baltimore survey (Doyle and Munro, 1997). Many places have more 0-4-year-olds than 5-9-year-olds even though the United States has nearly three percent more 5-9-year-olds than 0-4-year-olds. Georgia, Tennessee, and Texas - states from which we draw examples – also have more 5-9-year-olds than 0-4-year-olds.

To better illustrate this, we can use the difference between the number of pre-school children and 5-9-year-old children to calculate what amounts to a ‘Flight Rate’ (FR). We define FR as one minus the number of children aged 0-4 divided by the number of children aged 5-9, adjusted for the difference in the state’s ratio of 0-4 and 5-9-year-olds. With that FR definition, we get a negative FR for

places with fewer school-age children than younger children. For example, suppose the statewide 0-4/5-9 ratio is 0.95 (ST: there are 5% more 5-9 than 0-4, statewide), and suppose ZIP Code area X has 6000 children 0-4, and 5000 children 5-9. One minus $6000/5000 = -0.2$. That there are five percent more 5-9 than 0-4, statewide, means that flight from X is worse than -0.2. X's adjusted $FR_x = -0.25$; flight of 25%. Adjusted $FR_x = FR_x - (1 - ST) = [-0.2] - (1 - 0.95) = -0.25$

Indicative of flight from lower quality school areas, we can see from Tables 1-3 the typical persistence of poverty and flight of school-age children. These tables compare 2017 and 2000 data for Atlanta, Memphis, and San Antonio. Flight is typical for poor places, but not ubiquitous. School choice that already exists in some poor places may curb flight, and flight ends unless there is backfilling of young affluent families. Also, comparisons of 0-4 and 5-9-year-olds probably understate actual flight. Flight when the oldest of multiple children nears school age likely also lowers the number of 0-4 aged children; vice versa for the higher quality school area destinations. That, plausibly, is a basis for a rise in the median age. Those FR issues are key reasons for the preliminary nature of the findings. The general discussion above, and the specific examples below, are the basis for several hypotheses (the plausible FR determinants) to be assessed with regional or national data.

Note, from Table 1, that relative poverty persisted in 5 central Atlanta counties, and mostly got worse. Seventeen of the 21 zip code areas (zips) with median family incomes (MFI) below 70% of the Atlanta MSA median family income (an MFI ratio¹⁵) in 2017, had higher MFI ratios in 2000. Flight rose in 16 of those 21 zips, including in the four zips that saw MFI gains from 2000 to 2017. The four zips with MFI gains had the largest flight rate changes; going from positive to negative; likely a back-filling/reloading effect. We hypothesize that there is a steady influx of affluent young families that creates flight when a child nears school age. The FR columns, especially the 2000 FRs, indicate that many poor zips may have modest inflows of families with school-age children; perhaps reflecting better schools among those available to poor families, or an echo of past flight through lower property values.

Table 1: Atlanta Area Zips with MFI Ratio Below 0.7

ZIP	2017 MFI Ratio	Adjusted 2017 FR	Notes	2000 MFI Ratio	Adjusted 2000 FR	2017 Median Age	2000 Median Age	Georgia County
30315	0.415	-0.452		0.354	0.086	34.1	28.8	Fulton
30021	0.458	-0.238		0.609	-0.147	30.6	27.8	DeKalb
30311	0.460	-0.084		0.555	0.037	35.5	33.9	Fulton
30354	0.487	-0.379		0.487	0.034	33.3	28.4	Fulton
30093	0.523	-0.296		0.776	-0.177	29.2	28.9	Gwinnett
30079	0.554	-0.536		0.383	0.169	31.1	31.2	DeKalb
30032	0.555	-0.171		0.624	0.077	36.9	30.7	DeKalb
30297	0.560	-0.147		0.591	-0.016	31.2	29	Clayton
30083	0.585	-0.027		0.81	-0.023	34.8	30.1	DeKalb
30168	0.597	-0.005		0.718	-0.013	31.7	29.6	Cobb
30274	0.599	0.092	Hi-rated charter	0.718	0.043	32.0	29.4	Clayton
30337	0.603	-0.578		0.529	0.006	33.9	28.4	Fulton
30344	0.605	-0.025		0.618	-0.044	36.1	30.5	Fulton
30071	0.620	-0.048		0.81	-0.214	30.6	29.1	Gwinnett
30238	0.630	0.067	Many Near CPS	0.795	0.085	30.7	30.4	Clayton
30340	0.636	-0.268		0.767	-0.182	31.8	30.6	DeKalb
30291	0.638	-0.253		0.669	0.04	30.7	32.1	Fulton
30260	0.663	-0.364		0.77	0.031	33.1	31.4	Clayton
30008	0.667	0.094	Many Near CPS	0.834	-0.185	31.5	30.8	Cobb
30035	0.673	0.079	Many Near CPS	0.782	0.092	33.7	30.9	DeKalb
30331	0.678	0.035	No TPS; close CPS	0.717	0.078	35.0	32.6	Fulton

The rare positive 2017 flight rates may make our school quality variance argument better than the negative rates we expect, and typically get, for the poorest areas. Most of the positive FR zips have some school choice, indicating that FR reflects more than family expansion-induced exit for better fit housing. Zip 30274, with a net inflow of school-age children, has a chartered public school (CPS) with a high state-rating-system grade. There are many CPS near the residents of the other zips with a net inflow of school-age children (30008, 30035, 30238, and 30331). Zip 30331 contains no traditional public schools (TPS). There are many schools in zip 30238, including a highly rated TPS middle school. So, a model aiming to explain FR needs a school choice measure, a housing choice measure, and more than one measure of relative TPS quality.

I chose Memphis (Table 2) and San Antonio (Table 3) from available TN and TX maps¹⁶ to see if the Atlanta pattern held there to establish external validity for our hypothesis and to exploit my San Antonio expertise.¹⁷ Of Memphis' 13 zips with a 2017 MFI ratio below 70%, nine had a higher MFI ratio in 2010; like Atlanta's 17/21. Two of the better-in-2017 Memphis MFI ratios were still terrible;

below 40%. Flight rose in 9 of Memphis' 13 zips with a 2017 MFI ratio below 70%, again (as in Atlanta) including the four zips that saw MFI improvements from 2000 to 2017. Again, the 4 still-very-poor zips with MFI gains from 2000 to 2017 saw the onset of significant flight (4 of the 5 largest); FR going from plus to minus; likely a young family reload effect. The FR numbers, especially the 2000 rates, indicate that many poor zips may have modest net positive inflows of families with school-age children; perhaps reflecting better schools among those available to the poorest families, or an echo of past flight through lower property values. Again, Table 2's positive 2017 flight rates may – pending further study - make our school quality variance argument better than the negative rates we expect, and typically get, for poor areas. 38108 and 38109 have multiple schools of choice (CPS).

Table 2: Memphis Area Zips with MFI Ratio Below 0.7

	2017	Adjusted		2000	Adjusted	2017	2000
ZIP	MFI Ratio	2017 FR	Notes	MFI Ratio	2000 FR	Median Age	Median Age
38126	0.316	-0.377		0.228	0.063	28.3	24.3
38105	0.383	-0.383		0.279	0.085	34.8	29
38108	0.415	0.115	2 CPS + KIPP	0.513	0.058	31.6	34.7
38127	0.440	-0.182		0.622	0.078	29.6	28.1
38114	0.445	0.019		0.511	-0.018	35.6	31.6
38106	0.452	-0.415		0.466	0.086	39.1	35.3
38118	0.573	-0.123		0.752	0.055	29.3	27.5
38109	0.573	0.128	3 CPS	0.659	0.113	39.7	34
38115	0.582	-0.224		0.908	-0.107	29.2	29.1
38122	0.583	-0.326		0.739	-0.133	33.9	35.2
38107	0.592	-0.047		0.517	0.124	38.3	31.8
38128	0.677	0.027		0.824	0.026	30.0	29.6
38112	0.687	-0.485		0.612	0.028	35.4	31

My San Antonio expertise explains Zip 78264's presence in Table 3 (last line). 78264's 2017 MFI ratio is below the Federal poverty threshold of 80%, but above the 70% threshold that applies to the rest of Table 3, and all of Tables 1-2. We included it because 78264's MFI fell below the Federal poverty threshold between 2000 and 2017 despite a 2003 groundbreaking for a much-sought-after Toyota Truck factory. Production began in 2007. Construction of support facilities continued into the

next decade with the population of 78264 peaking at 13,425 in 2012, and leveling off at just over 10,000 in 2016 and 2017. With a pre-Toyota, year-2000 population of 7513, and 78264's lower 2017 MFI ratio than in 2000, many of the 1850 plant employee families, and supplier employee families, must be living outside 78264. We see a similar pattern in the main adjacent zip, 78224, including a shift from net school-age-child influx in 2000 to flight in 2017. Arrival of the Toyota Plant employed affluent young families. The data are consistent with net family exit from 78264 and 78224 when the children reach school age. Of San Antonio's 22 zips with a 2017 MFI Ratio below 70%, 21 had a higher MFI Ratio in 2000; a higher rate than Atlanta's 17/21.

However, probably partly for school choice/quality reasons seen in Table 3's 'Notes' column, San Antonio's poorest areas have a much weaker low-MFI ratio-flight ($FR < 0$) connection. Two new sports stadiums were built east of downtown San Antonio. The surrounding areas - 78202, 78203, and 78204 for the football stadium [1993], and 78219 for the newer basketball arena [2002] - remain poor. However, several CPS, and the subsidized,¹⁸ private Carver Academy, likely produced a net inflow of school-age children; except in 78219, which has the typical net outflow ($FR < 0$).

Table 3: San Antonio, Texas Area Zips with MFI Ratio Below 0.7							
ZIP	2017 MFI Ratio	Adjusted 2017 FR	Notes	2000 MFI Ratio	Adjusted 2000 FR	2017 Median Age	2000 Median Age
78202	0.412	0.295	Carver Academy	0.495	0.021	29.9	32.5
78207	0.435	0.027	Many SAISD	0.547	-0.053	31.9	29.3
78203	0.458	0.275	Next to Carver	0.594	-0.012	30.5	30.7
78237	0.483	0.018	KIPP + EISD	0.63	0.032	34.2	30
78226	0.524	-0.008	EISD	0.697	0.013	39.0	25.5
78220	0.564	0.219	IDEA Charter	0.732	0.024	35.3	35.9
78208	0.573	0.196	Many	0.494	-0.166	34.3	28.1
78204	0.577	0.168	KIPP	0.713	0.026	37.5	33.5
78214	0.582	-0.091		0.656	-0.018	32.7	31.2
78211	0.588	0.009		0.651	-0.031	32.5	28.9
78225	0.600	0.300	Catholic and CAN	0.699	-0.018	35.0	33.3
78210	0.605	0.073		0.703	0.024	35.3	32.4
78227	0.612	0.013	EISD	0.761	0.007	30.7	24.8
78242	0.617	0.107	IDEA Charter	0.7	0.027	28.6	24.9
78219	0.629	-0.060		0.92	0.061	33.7	34.3
78221	0.645	-0.090		0.742	-0.027	33.0	30.3
78218	0.671	-0.301		0.927	-0.054	33.2	33.1
78228	0.676	0.054	EISD	0.795	0.012	32.4	30.9
78073	0.679	-0.038		0.803	0.118	34.1	30.2
78201	0.683	-0.173		0.744	-0.077	36.6	33.3
78229	0.689	-0.112		0.861	-0.378	31.7	29.1
78224	0.689	-0.034		0.793	-0.018	30.7	28.5
78264	0.768	-0.265		0.825	0.137	34.3	31.9

An article¹⁹ about high-poverty zip 78207 describes the school district superintendent's plan to redraw attendance area boundaries and offer limited choice, including to higher income families from outside the district, to greatly improve income integration of the San Antonio ISD's schools. CPS donor preference for CPS located in distressed areas has also helped foster school-age child inflow as seen in the positive 2017 flight rates found, especially, in the first lines of Table 3.

There are at least three possible reasons why school-age child inflow has not [yet?] yielded significant MFI gains. 1) There is a low limit on higher income family entry into the school district's controlled choice schools; 2) price-control,²⁰ and donor-dependence-induced barriers to CPS start-up and expansion; and/or 3) insufficient time for economic development effects to manifest themselves.

Another possible factor in the low propensity for flight from some of San Antonio's poorest areas was the privately funded, 1998-2008 program (a key source of accidental evidence) to make large tuition vouchers available to every child with an Edgewood School District address (EISD zips: 78226, 78227, 78228, and 78237). There were significant economic development effects, EISD improvement effects, and EISD enrollment gains *alongside* voucher use.²¹ FRs near zero indicate that the EISD improvement and economic development effects fizzled after 2004 (the last year new applicants received vouchers). We will expand more on this in Section 4. Section 3 will argue that we need new approaches because the traditional approach of using subsidies to recruit business investment into poor areas, such as the examples noted above, is always costly, and mostly a failure.

3. Traditional Approaches to Persistent Severe Pockets of Urban Poverty

The oldest 'approach' relies on the price system to shift development to lagging areas through lower land prices ([example](#)²²). But a mixture of forces²³ that includes competition for property near better schools, plus greater ease in commuting long distances, often dominates that passive process. That inadequacy led to a post-WW2 policy-driven mixture of urban renewal²⁴ and distressed-place-targeted investment subsidies.

Georgia's contemplation of school-choice-based approaches arose from the failure of traditional approaches to shrink Atlanta's pockets of persistent poverty. The evidence²⁵ had to be overwhelming to yield consideration of always-controversial school-choice-based policies as an alternative to politically advantageous, traditional approaches.²⁶ The longstanding policy of targeting investment subsidies allows officials to use economic development to justify channeling money to supporters.²⁷ Indeed, the 2017 federal tax revision tells governors to designate opportunity zones. Their zone designations were often seemingly not well focused on need or potential.²⁸

A recent US and UK literature review argues that, "academic and government studies consistently show place-based development programs fail to increase employment, raise wages, or advance general economic opportunity for targeted residents because they have not addressed the main

causes of poverty.”²⁹ The conclusion that place-based investment incentives are ineffective is, “informed by decades of research.”³⁰ Weak effects in the target areas arise from owners’, employees’, and users’ of new investments growing ability to reside elsewhere. Increasing mobility makes it easier to reside at some distance, and factors such as better housing and TPS quality motivate long commutes. That’s why the recommendation³¹ – “low taxes and easy regulation, evenly applied” – may yield much more development where the most affluent families prefer to live despite a long commute and loss of downtown amenities; exactly what we’re seeing in our cities.

Strategies to forsake ‘bad’ places – moving people to opportunity - yielded the same uneven results for urban areas as it has for regions where that policy existed, though not always on purpose. For example, in Appalachia,³² increased mobility³³ helped distressed area residents commute, or abandon lagging areas, to find opportunity. The US Department of Housing and Urban Development [evolved](#) a “Moving to Opportunity” (MTO) strategy from an [experiment](#) that yielded some positive results.³⁴ The children that were moved to higher income areas earned significantly more as adults. However, the moves did not yield significant, measurable education gains.³⁵

Serious consideration of such costly policies attests to the frustration with traditional approaches to persistent pockets of extreme urban poverty. A national MTO-based anti-poverty strategy would require relocation of millions of families, yielding hard-to-accept abandonment of large swaths of our major cities.³⁶ Fortunately, there are more reliable, low-cost methods for uplifting the residents of persistent, deepening pockets of urban poverty.

4. School Choice Expansion as a Distressed Area Economic Development Agent

The hypothesis underlying use of private school choice expansion (PSCE) as a short- and long-term economic development catalyst is that to maximize the effects – to reduce exit of affluent families still in distressed areas and cause affluent young families to move there - ***every family in the targeted areas must have access to genuine school choices***. Movement there gradually yields a larger and improving menu of diverse schooling options. Because the presence of those options directly addresses

the flight issues previously discussed, it is more likely to be a fast-acting powerful economic growth catalyst. TPS must deliver schooling that appears to fit nearly every child. No matter how much the public school system improves its attempts at comprehensive schooling: a) the assigned TPS will still be a poor fit for some children, yielding flight; and b) public school system improvement will not eliminate the income-class-separating effect of differences in comprehensive school quality.

With an attempt at a comprehensive school in each attendance area, we get one-dimensional school quality. With that, nearly every family prefers the same schools. The wealthiest families win the contest to buy homes near the best TPS.³⁷ If private schools become more affordable, the likely rise in the diversity of the schooling options will cause each family's definition of best to depend on the nature of their children. How much universal private school choice will cause the private school choices to differ from the existing private school choices is one of the most important things to learn from deployments of PSCE as an economic development catalyst.³⁸ Many families in a targeted LIC, or considering moving there, will see a specialized private school made accessible by an education savings account (ESA³⁹ - a flexible version of a tuition voucher) as superior, for at least one child, to the best TPS they can afford to be near.

The difference between places such as the east side of downtown San Antonio, with CPS and charity-supported private schools such as the Carver Academy, and the open private sectors created by universal private school choice, probably explains why the school-age family inflows evident in some zip codes on the east side of downtown San Antonio have not yet yielded noteworthy economic development. Low-income families filled the schools of choice east of downtown San Antonio (as intended by their sponsors), precluding the inflow of middle and upper-middle income families likely when private school subsidies (ESA) are ***available to every LIC resident***. We must avoid means-testing family eligibility for an ESA, because that will exclude the very people needed to drive economic growth.

Shortages/waitlists at attractive schooling options are a major deterrent for families able to relocate. To avoid shortages – to maximize the economic development catalyst effect - non-public

schools must be free to charge ‘what the market will bear’ (no price control),⁴⁰ which means families must be free to top off (privately, *and through third-party scholarship funding*) public dollars available through ESAs. Topping off is a normal part of ESA or tuition tax credit use, but a controversial part of tuition voucher policy; a compelling reason to stick with the ESA vehicle, and not propose vouchers.

Linking choice program eligibility to prior TPS attendance is another common affluent family deterrent that may actually harm TPS. Evidence from the Edgewood Independent School District (EISD – west of downtown San Antonio) indicates that significantly lower barriers to choice are likely to help TPS users.⁴¹ Officially, the privately-funded program offered vouchers to every EISD resident for 1998-2008, but funding limits precluded funding new applicants after 2004. Many applicants didn’t seek vouchers for every child, which demonstrated that instructional fit was a key motivating factor, and that fit varies within many families. That’s why voucher-triggered in-migration,⁴² and avoided flight, raised EISD enrollment despite longtime resident voucher use. And during the middle years of the program, EISD reversed its performance decline. Since there was no evidence of a formal EISD competitive response, better fit⁴³ was the likely cause of the EISD gains. Voucher users left for a better fit, which removed many poor fits from EISD classrooms. That reduced EISD teachers’ differentiated instruction challenge.⁴⁴ EISD performance began to fall when the program stopped accepting new applicants, and as the 2008 expiration date loomed.

In Santa Ana (CA), Wake County (NC), and near Panama Beach (FL), a CPS was the development catalyst.⁴⁵ The Santa Ana case is especially noteworthy for its uplifting effects on a depressed downtown.⁴⁶ In Vermont, private school choice exists where TPS are unavailable, which attracts new residents and raises property values.⁴⁷ For example, in 1998, Vermont’s Winhall district had only 36 students and performed badly despite school spending at 180% of the state average. After Winhall closed its school and provided vouchers to Winhall-area students, ‘enrollment’ rose to 80 and achievement topped the Vermont average at a cost of just 82 percent of the state average. Each example

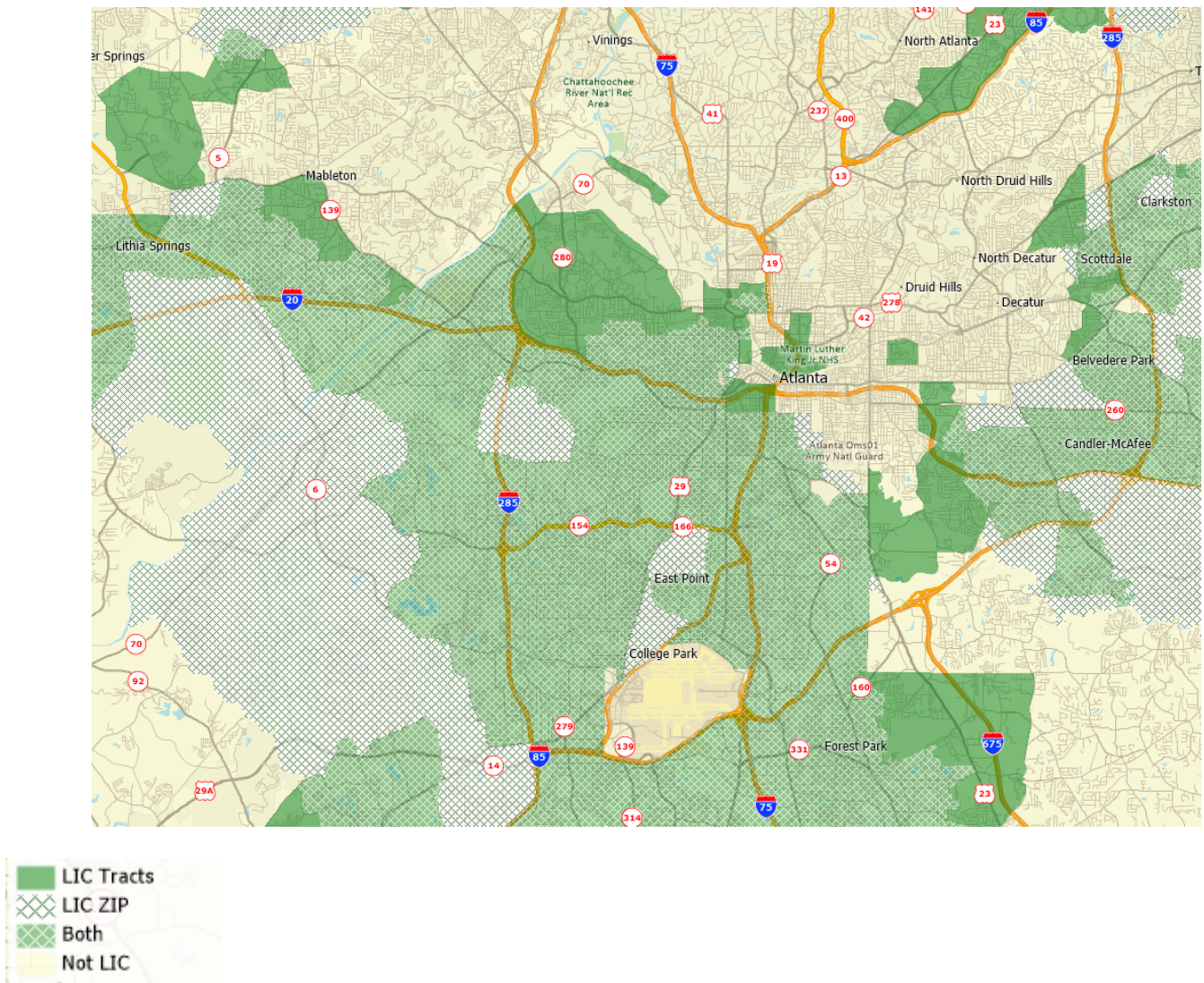
indicates that granting universal school choice expansion, selectively, does more than re-allocate residents within cities. Outsiders arrive to achieve discounted access to private schools.

5. Significance of a Genuine Universal Choice Experiment

The outcomes of narrowly targeted, restriction-laden US programs, and to a lesser extent universal, but still restriction-laden, foreign examples, have been the focus of school choice debates. Choice expansion proponents cite the overwhelmingly positive outcomes⁴⁸ without noting their low relevance to discussions of school system reform. Choice expansion opponents point out that the positive effects are small without acknowledging that restriction-laden, small-scale school choice expansion effects do little to inform study of choice expansion on a scale that could qualify as a school system reform catalyst. Probably, only evidence from large-scale choice examples can end that logjam and launch the much-needed conversation on HOW to achieve urgently needed, transformational school system reform. Six non-partisan and bipartisan panel declarations that the US K-12 systems are dangerously, “Nation at Risk” low-performing⁴⁹ make that an objective statement.

Atlanta has enough well-populated, contiguous LIC zips – using the federal definition of an MFI ratio below 80% - for poor-place-targeted private school choice expansion (PSCE) to create credible evidence of large-scale, low-restriction private school choice outcomes (Figure 1). The same thing may be true for many cities that choose to deploy PSCE to attack concentrated poverty. Since market area fragmentation could yield lousy experiments in universal school choice, we need to identify where poor-place-targeted deployment of PSCE avoids that, which is one of the reasons to make a many-city-comparison of Zip Code areas to Census Tracts as the appropriate basis for eligible LIC designation. Looking at Figure 1, we see that the LIC-qualifying zips are about half of the area. Most of them are contiguous. The LIC-qualifying zips have 31% of inner Atlanta’s (Clayton, Cobb, DeKalb, Fulton, and Gwinnett County) population.

Figure 1: Atlanta Area Census Tracts and Zip Code Areas

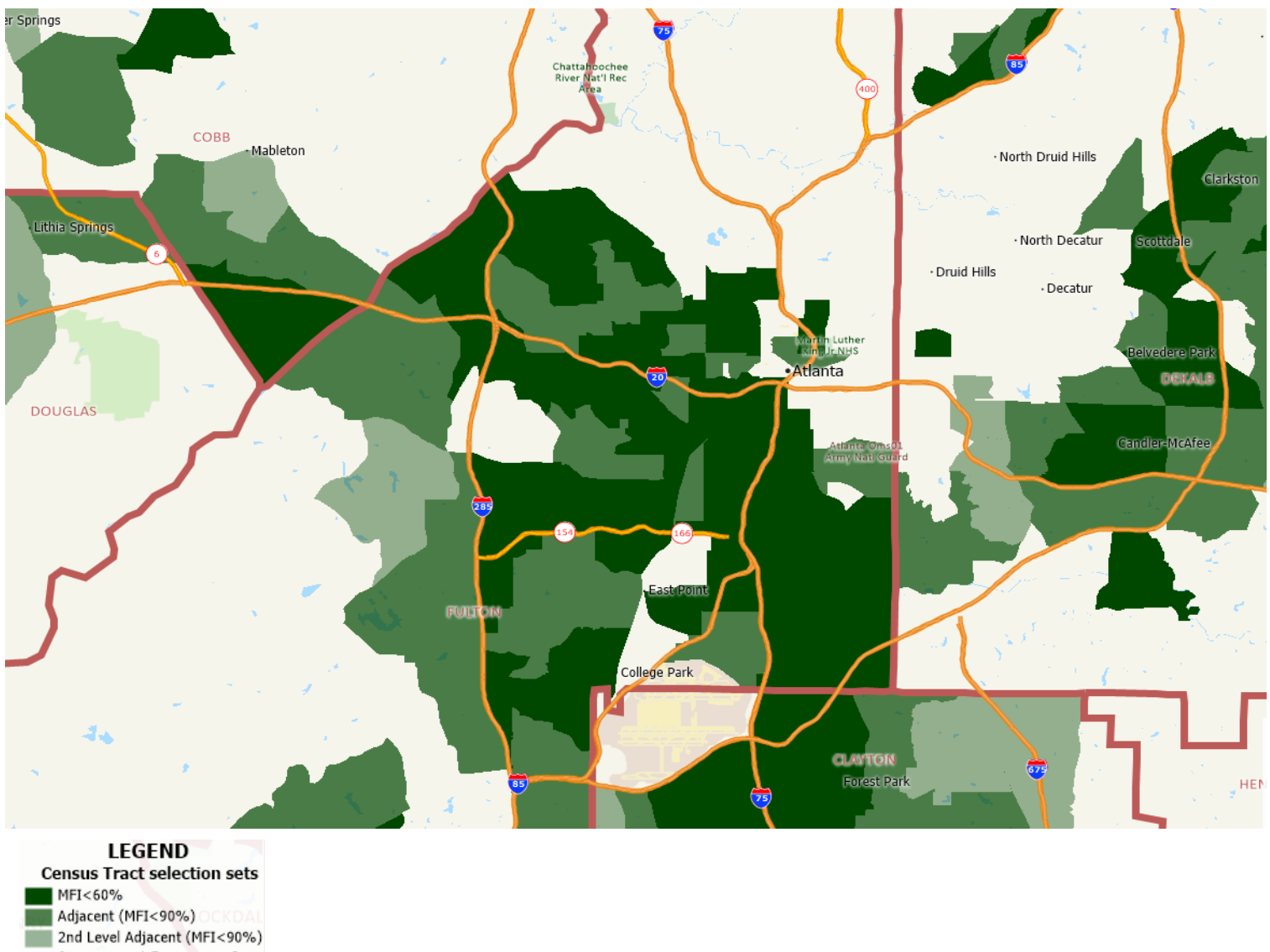


However, non-qualifying tracts (grey cross-hatched areas) have 26% of the LIC-qualifying zips' population. That may be a positive feature because: 1) it may prevent population loss and increased poverty in barely not qualifying areas; 2) it may provide islands of housing suitable for middle- and upper-income migrants; and 3) Isolated tract-size LICs may not contain good sites for new private schools. Follow-up study should assess the proximity needed so that new arrivals serve as development catalysts for the LIC parts of the targeted zips.

The key drawback of zips as the basis for formal LIC designation is the ineligibility of LIC census tracts residents in non-qualifying zips. Those are the dark green areas in Figure 1 containing

nearly 10% of the residents of Atlanta’s five central counties. Sticking by the existing federal law that bases formal designation of LICs on *census tract* data yields greater market fragmentation than use of zips, but it avoids excluding the dark green ‘island tracts,’ and for better or worse, excludes non-qualifying tracts that are in qualifying zip code areas (Figure 2). The other key advantage of census tracts as the basis for formal designation of LICs is inertia. Tradition is hard to contest; even harder when it has the force of federal law.

Figure 2 (MFI < 60% tract clusters) shows those tract clusters for the Atlanta area.

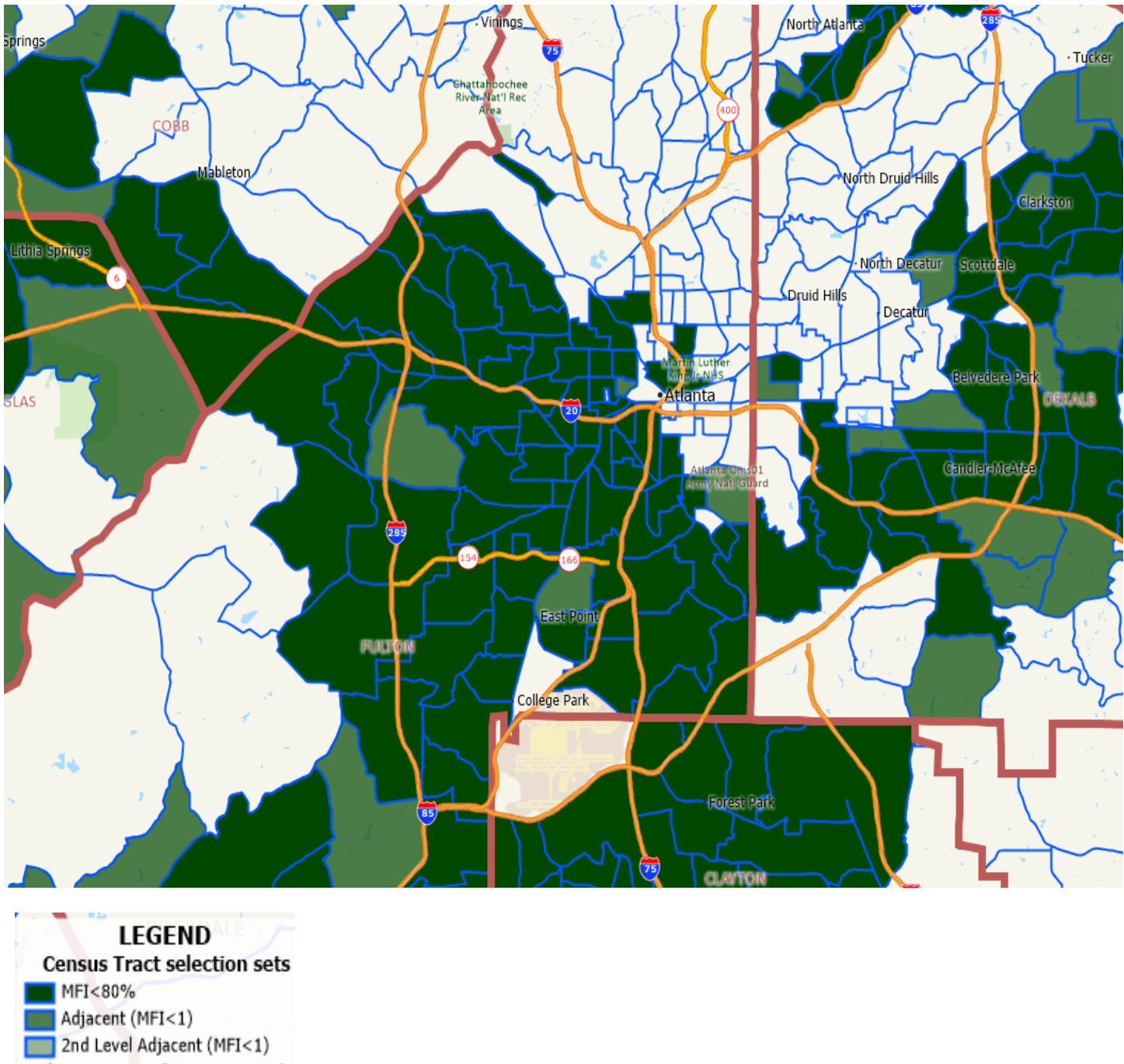


Area targeting can yield troublesome edge effects. Barely ineligible tracts are likely to lose economic activity to barely poorer nearby areas where residents are ESA eligible. Designation of qualifying areas based on adjacency to especially low MFI Ratio census tracts is an approach that addresses the fragmentation, size, and near-miss issues. For example, an ESA-eligible region could be areas that include tracts with MFI Ratios below 60%, plus all adjacent tracts with MFI Ratios below 90%; not just those directly adjacent (Level One) to the core below 60%, but also the below 90% tracts adjacent to the below 90% tracts adjacent (2nd Level) to the core tracts below 60%.

Though some fragmentation remains, adding adjacent tracts with MFI Ratios between 60% and 90% creates population clusters that are probably large enough to serve as a credible low-restriction, universal school choice experiment. Without the 60%-90% areas, fragmentation is significant, though, sadly, the below 60% MFI area (dark green) is quite large. For comparison, Figure 3 shows the areas with core tracts with MFI ratios below 80% (federal poverty criterion), and all adjacent tracts below 100%, but also the below 100% tracts adjacent to the below 100% tracts adjacent to the core tracts below 80% (2nd Level).

The Figure 3 eligibility criteria very likely yield an area large enough to create a credible low-restriction school choice experiment. Figure 3 also reveals a high degree of family income stratification. There are few tracts with MFIs between 80% and 100% of the Atlanta area average. And there are no 80%-100% tracts adjacent to 80%-100% tracts. Much of the dark green area – tracts with MFI ratios below 80%, often way below (discern by comparing Figure 2 and 3) – is adjacent to areas where MFI ratios are above 100%; often way above. To keep footloose families from opting for less poor tracts over especially poor core tracts, the law could award larger ESAs to residents of poorer tracts.⁵⁰ We need to deploy research to inform decisions such as the MFI ratio cutoff for the core tracts, and the selection of the MFI ratio range that qualifies tracts adjacent to the core.

Figure 3: MFI < 80% Tract Clusters



We can discern the likely significance of such evidence from examples that include the early 1980's UK failure to follow through on a Thatcher campaign promise, and some US examples. In

1981, the UK's Thatcher Government seriously considered a large, unrestricted voucher program, but declined because of a lack of documented experience to address key concerns.⁵¹

The 2007 Utah Legislature narrowly approved a small-scale tuition voucher program. I initially assumed that significant restrictions were necessary to secure some legislators' support. But the legislators I spoke with said there was no coalition-expanding reason for the restrictions. The restrictions were seen as appropriate because of the widespread misconception that the K-12 low-performance problem is just a low-income, urban problem. Since non-low-income, non-urban TPS were widely seen as typically fine, there was no perceived need to transform the system. And absent a willing policy champion, a referendum overturned even that timid step of one of the nation's most conservative legislatures and electorates.

The 2011 Texas legislature faced a \$15-\$27 billion gap between projected existing-law-outlays and revenue, yet it did not seriously consider a universal choice plan that would have cut the projected gap by \$2 Billion. In 2015 and 2017, the Texas State House didn't consider Senate-approved ESA legislation. Republicans held all statewide offices and had a super-majority in both legislative bodies. Texas, like Utah, is a weak teacher union state. The Governor and Lt Governor professed support, but only the latter, openly. The 2011 Texas bill's most prominent champion was a State House member. The 2011 statewide officeholders were unwilling to be policy entrepreneurs on a potentially transformative policy even though it offered significant fiscal savings during a time of great need for them. The lukewarm support in very conservative states reflects the poor evidence base available to support policy entrepreneurship on urgently needed, transformative school system reform. In Utah and Texas, there was a need to more clearly establish what would work better and provide answers to all of the objections that might be raised that did not begin with 'in theory.'

Indeed, we have not adequately examined potential alternatives to current funding and governance policies. Jack Klenk (1990) said, "*there must be examples in research to show another [better] way is possible.*" Seymour Sarason (1997) made the same point; there is little

thought about alternatives to our current system. “One person said, why waste time fantasizing? What we have is locked in concrete (p 16-17).” Expectations can be self-fulfilling, and in terms of school system reform, they have been. Much remains to be done “to *show* another [better] way is possible.” In a 2008 National Academy of Education forum to create policy ideas for the Obama Administration, policymakers said that “researchers gave them too little evidence on which to base policy (*Education Week*, 12/3/08, p11).” Because we have a long way to go towards showing a better way is possible, uncertainty about the performance and side effects of credible alternatives to the current system feeds the inertia that curbs substantive change.

6. Environmental Significance of Poor-Place-Targeted School Choice Expansion

Should we have lengthened the title of this article to include environmental benefits from poor-place-targeted expansion of private school choice? We can credibly hypothesize that the air quality effect of reduced sprawl – less driving from homes in better school districts to inner city jobs - would be noteworthy. “Decentralized land use patterns (“sprawl”) have long been associated with a number of social and environmental problems.”⁵² Variability in assigned school quality is a well-established contributor to sprawl,⁵³ but there are no measurements of the general significance of that variability, much less for specific places. Based on the 2000 Census, and the SmartGrowth Center’s definition of sprawl, Atlanta’s sprawl ranked fourth.⁵⁴ Based on the 2010 Census, and a different definition, Atlanta was #1;⁵⁵ though by another measure it was not in the top ten.⁵⁶

There is a significant negative relationship between population density and per capita fuel usage within 63 large metropolitan regions around the world ($R^2 = 0.86$).⁵⁷ Atlanta’s low density leaves lots of room for sprawl reduction. Additionally, the city’s hot, humid summers and legendary traffic⁵⁸ - despite stunningly wide roads⁵⁹ – likely means an above-average connection between sprawl, fuel consumption, and air quality. Atlanta is an Air Quality Non-Attainment Area because of its high occurrence of Clean Air Act violations.⁶⁰ Sprawl is a likely key reason for those frequent violations. Studies of traffic congestion fees⁶¹ have shown that the link between traffic and congestion, and therefore tailpipe

emissions, is not linear, which means that small reductions in road usage typically yield large congestion and emission reductions. Regarding the general rise in congestion: “there is really only one solution. That’s to put people back in the core of metro areas [as residents],”⁶² which is what the evidence says we can expect from poor-place-targeted PSCE. That’s become more important because the recent Pandemic raised resistance to direct approaches to increased core area density.

Sprawl also reduces water quality,⁶³ and pockets of inner-city poverty yields hard-to-quantify ‘blight.’ The former results from debris associated with driving, and the additional run-off that results from reduction in surface permeability. Measurements of the links between PSCE, flight reversal, sprawl and congestion reduction, and environmental gains have more than academic value. Not only do such measurements facilitate integration of strategies to achieve various gains – for example, less driving between jobs and homes near better TPS could reduce the need for hard-to-enact traffic congestion fees⁶⁴ - they could be politically significant. Such measurements could induce some cities to add PSCE to their climate action plans.

7. Summary and Concluding Remarks

Achieving eventual widespread availability of low-restriction school choice – overcoming school system policy inertia - could depend upon the generation of evidence through its initial implementation as an economic development catalyst for pockets of urban poverty. It could start in Atlanta, and given the city’s severe income stratification and low-performing school system, it arguably needs to start there soon, and quickly spread to other cities.

This is a critical general issue. Atlanta is merely a great example. Private school choice is the ONLY route out of the malaise created by policymakers’ near-total reliance on the central planning (Merrifield, 2019) that confounds primary and secondary education globally. Price change and **choice**-driven determination (decentralized planning) of what is taught, where, how, and to whom is the only alternative to continued over-reliance on a central planning process whose terrible track record matches its well-established, huge information-incentive deficiencies.

There is increasing evidence that assigned school quality variance is a major contributing cause of the deep pockets of urban poverty seen in every city.⁶⁵ Note that since widely-perceived *relative* quality variance is the cause of many affluent families voting with their feet and wallets, overall public school system improvement may not significantly reduce flight from lower- to higher-quality TPS attendance areas. Reducing that flight will likely require gains in the lower-quality areas relative to higher quality areas, and require ending the one-dimensional perception of quality that results from TPS uniformity. School choice expansion reduces the consequences of the TPS uniformity that prevents meeting the diverse instructional needs of many children.

A likely key issue needing some research is the best geographic unit for the designation of the PSCE-eligible areas. Census tracts are the basis for the controversial opportunity zones made possible by the 2017 Tax Reform Act, but tracts may be too small to provide an adequate, much less optimal, basis for attracting affluent young families, and new schools, into the ESA-eligible areas. But with Zip Code Areas as the basis of Education Savings Account-eligibility, some Low Income Community (LIC) tracts will be left out, and non-LIC areas will be included in the eligible areas. Further map-making, map-study, and reflection is warranted on this critical issue.

Endnotes

¹ Eight studies cited at <https://www.effective-ed.org/in-the-media>, plus <https://faculty.business.utsa.edu/jmerri/f/evp.pdf>, discussed later.

² Probably ‘all’ cities; no exceptions found yet.

³ <https://opportunityatlas.org/> and Tennessee, Texas, and Georgia studies posted at <https://www.effective-ed.org/in-the-media>

⁴ See: a) Akst, 2005; b) Batchis, 2010; c) Bradford, 2019; d) Cohen, 2019; e) DeRoche, 2020; f) Freeman, 2019; g) McKoy and Vincent, 2008; h) Passmore, 2002; and i) Wong, 2018 in the References list.

⁵ <https://www.nature.com/scitable/knowledge/library/the-characteristics-causes-and-consequences-of-sprawling-103014747/>

⁶ Simmons (1968), Elspeth (1985), Adams et al (2005), and an unavailable Clermont (1995) dissertation.

⁷ Orfield (1996).

⁸ See also the works cited in note 4.

⁹ Batchis (2010).

¹⁰ Typical TPS are ‘comprehensive;’ to address the student diversity of an attendance area. That TPS uniformity means there will be widespread agreement on school quality differences, which is what yields the housing market effects.

- ¹¹ Reback, Randall. 2005. "House Prices and Provision of Local Public Services," *Journal of Urban Economics* 57:2, p 275-301; Black, Sandra E. and Machin, S. (2011), "Housing Valuations of School Performance", in Eric A. Hanushek, Stephen Machin, L. (ed.), *Handbook of the Economics of Education, Volume 3*, Elsevier; Phuong Nguyen-Hoang and Yinger, John. 2011. "The Capitalization of School Quality into House Values: A Review," *Journal of Housing Economics* 20:1, p 30-48.
- ¹² See, especially, Bradford, 2019 and DeRoche, 2020.
- ¹³ Cohen, 2019.
- ¹⁴ See Danielsen et al, 2014, and seven other studies posted at: <https://www.effective-ed.org/in-the-media> Census data, by zip code, are the basis for the FR calculations.
- ¹⁵ An 80% MFI Ratio is a Federal Law opportunity zone – census tracts - designation criterion. We use zip code areas and 70% as the cut-off for our tables to keep the number of cases manageably small.
- ¹⁶ <https://www.effective-ed.org/in-the-media> - click and scroll down.
- ¹⁷ We found income stratification by area, and persistence of the poor areas, throughout Georgia, Tennessee, and Texas, and found the stratification, also, in our review of the maps at <https://opportunityatlas.org/>.
- ¹⁸ San Antonio Spurs Hall of Fame Basketball player, David Robinson.
- ¹⁹ <https://www.the74million.org/article/78207-americas-most-radical-school-integration-experiment/>
- ²⁰ Policy sets the per-pupil payment to CPS, and sets the tuition rate at zero.
- ²¹ <https://faculty.business.utsa.edu/jmerrifi/evp.pdf>
- ²² <https://www.wsj.com/articles/covid-19-clobbered-manhattan-lower-rents-could-lead-recovery-11616778760>
- ²³ Sorting out the controversy over which factors were most influential in the economic stratification of U.S. cities – we find no noteworthy exceptions – often between inner city and suburbs, but not necessarily, is beyond the scope of this paper. We find that variance in school quality was definitely one of those factors; perhaps the most significant. See: a) Akst, 2005; b) Batchis, 2010; c) Bradford, 2019; d) Cohen, 2019; e) DeRoche, 2020; f) Freeman, 2019; g) McKoy and Vincent, 2008; h) Passmore, 2002; and i) Wong, 2018 in the References list.
- ²⁴ Cohen, 2019
- ²⁵ Review article: <https://www.heritage.org/taxes/report/opportunity-zones-understanding-them-the-context-past-place-based-incentives>
- ²⁶ <https://thehill.com/opinion/finance/477210-the-right-fix-for-opportunity-zones?rnd=1578433813>
- ²⁷ <https://thehill.com/opinion/finance/477210-the-right-fix-for-opportunity-zones?rnd=1578433813>
- ²⁸ <https://thehill.com/opinion/finance/477210-the-right-fix-for-opportunity-zones?rnd=1578433813>
- ²⁹ <https://www.heritage.org/taxes/report/opportunity-zones-understanding-them-the-context-past-place-based-incentives>
- ³⁰ <https://www.heritage.org/taxes/report/opportunity-zones-understanding-them-the-context-past-place-based-incentives>
- ³¹ <https://www.heritage.org/taxes/report/opportunity-zones-understanding-them-the-context-past-place-based-incentives>
- ³² https://en.wikipedia.org/wiki/Appalachian_Regional_Commission
- ³³ https://en.wikipedia.org/wiki/Appalachian_Development_Highway_System
- ³⁴ Raj Chetty, Nathaniel Hendren, and Lawrence F. Katz, "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment," *American Economic Review* 106-4 (2016): 855-902.
- ³⁵ <https://www.educationnext.org/all-over-the-map/>
- ³⁶ <https://www.effective-ed.org/greenapples/wheretheyare>
- ³⁷ a) Bradford, 2019; and b) DeRoche, 2020.
- ³⁸ Despite the absence of a US constitution reason (*Zelman*) for banning choice expansion that includes church-delivered instruction, the likely universal choice market share of such instruction will still be an issue in many states.
- ³⁹ The annual education savings account deposit would be at least the per-pupil state funding. In a "nondiscrimination" world (Merrifield, 2019), local tax dollars will also follow TPS opt-outs.
- ⁴⁰ Objections to fees are widely grounded on unsupported assumptions. Chapter Nine of John Merrifield's (2019) *School System Reform: How and Why is a Price-less Tale*, identifies and addresses those dubious assumptions.
- ⁴¹ See also <https://www.edchoice.org/engage/faqs/how-does-school-choice-affect-public-school-students/> and this: (<https://www.nber.org/papers/w26758>); the latest in a long line of articles that document TPS gains.
- ⁴² The EISD-area trailer parks filled up quickly. New housing was constructed for the first time in decades. Apartments advertised that residents would be voucher eligible.
- ⁴³ Rose, 2016.
- ⁴⁴ The expectation of differentiated instruction is central to the evolved TPS business 'plan', but it is often not forthcoming. There is no tangible incentive to meet the differentiated instruction challenge maximized by the TPS policy of sorting children only by age and place of residence, and the skill to meet that maximum challenge seems to be rare and relatively unteachable. For more detail, see: <https://www.schoolsystemreformstudies.net/differentiation-of-instruction-delusion/>

-
- ⁴⁵ Find the studies of each at: <https://www.effective-ed.org/in-the-media>
- ⁴⁶ <https://www.arts.gov/sites/default/files/Research-Art-Works-NorthCarolinaState.pdf>
- ⁴⁷ <https://ethanallen.org/wp-content/uploads/2015/02/School-Vouchers-and-Home-Prices-JHR-Accepted-Version.pdf>
- ⁴⁸ <https://www.edchoice.org/engage/faqs/how-does-school-choice-affect-students-academic-performance/>
- ⁴⁹ <https://www.schoolsystemreformstudies.net/nation-at-risk-vi/>
- ⁵⁰ There have been proposals to means-test tuition voucher size (https://www.ontheissues.org/Celeb/Robert_Reich_Education.htm), though the difference here is that we means-test places, not people. To create the economic development catalyst every resident of a qualifying tract is eligible for an ESA of the same size.
- ⁵¹ P 261-263 of James Tooley's (2008) *E.G. West: Economic Liberalism and the Role of Government in Education* (Continuum Library of Educational Thought), and Chapter II of Arthur Seldon's (1986) *The Riddle of the Voucher*.
- ⁵² Stone, 2008; p 690.
- ⁵³ See: a) Akst, 2005; b) Batchis, 2010; c) Bradford, 2019; d) Cohen, 2019; e) DeRoche, 2020; f) Freeman, 2019; g) McKoy and Vincent, 2008; h) Passmore, 2002; and i) Wong, 2018 in the References list.
- ⁵⁴ Ewing et al, 2002
- ⁵⁵ Jaffe, 2014
- ⁵⁶ Laidley, 2016; the article only specified the top ten, and lowest ten from 150.
- ⁵⁷ Newman and Kenworthy, 1989.
- ⁵⁸ <https://www.citylab.com/perspective/2019/09/worst-cities-traffic-congestion-commuting-time-transit-data/597262/>; Atlanta is #2 in terms of increased delay.
- ⁵⁹ Fifteen lanes on IH-75: <https://www.politifact.com/texas/statements/2016/apr/13/sylvester-turner/worlds-widest-highway-not-where-sylvester-turner-t/>
- ⁶⁰ <https://documents.atlantaregional.com/snapshots/AirQualitySnapshot2016.pdf>
- ⁶¹ https://www.ted.com/talks/jonas_eliasson_how_to_solve_traffic_jams/transcript?language=en
- ⁶² <https://www.citylab.com/perspective/2019/09/worst-cities-traffic-congestion-commuting-time-transit-data/597262/> and Chapter 23 of Lawrence Siegel's *Fewer Richer, Greener* (Chicago, Wiley, 2019).
- ⁶³ <https://www.citylab.com/perspective/2019/09/worst-cities-traffic-congestion-commuting-time-transit-data/597262/>
- ⁶⁴ Until experienced, whereupon many people even forget that they once strongly opposed them: https://www.ted.com/talks/jonas_eliasson_how_to_solve_traffic_jams/transcript?language=en
- ⁶⁵ <https://www.effective-ed.org/in-the-media> and <https://www.opportunityatlas.org/>

References

- J. S. Adams, D. J. Caruso, E. A. Nordstrand & R. I. Palm. 1973. "Intraurban Migration. *Annals of the Association of American Geographers* 63:1, p 152-155. DOI <https://doi.org/10.1111/j.1467-8306.1973.tb00913.x>
- Akst, D. 1998. "Why Liberals Should Love School Choice." *Wall Street Journal* (4/6/98): p A14.
- Akst, D. 2005. "School Choice Could be an Answer to Sprawl." <https://grist.org/article/akst1/>
- Batchis, Wayne. 2010. "Urban Sprawl and the Constitution: Educational Inequality as an Impetus to Low Density Living." *The Urban Lawyer* 42:1, p 95-133.
- Baum, Howell. 2004. "How Communities Can Use Research to Hold School Systems Accountable." *Urban Review: Issues and Ideas in Public Education* 36:1, p 37-59.
- Black, Sandra E. and Machin, S. (2011), "Housing Valuations of School Performance", in Eric A. Hanushek, Stephen Machin, L. (ed.), *Handbook of the Economics of Education, Volume 3*, Elsevier, <https://dx.doi.org/10.1016/B978-0-444-53429-3.00010-7>.
- Bradford, Derrell. 2019. "When the Cost of Admission Is Paying Off a College, Americans Are Outraged. But When It's the Price of a House Near a Good School, There's Silence." <https://www.the74million.org/article/bradford-when-the-cost-of-admission-is-paying-off-a-college-americans-are-outraged-but-when-its-the-price-of-a-house-near-a-good-school-theres-silence/>
- Brody, S. 2013. "The Characteristics, Causes, and Consequences of Sprawling Development Patterns in the United States." *Nature Education Knowledge* 4:5, p 2.
- Chetty, R., N. Hendren, and L. Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment," *American Economic Review* 106-4 (2016): 855-902.
- Clermont, Roslyn. 1995. *The Causes and Consequences of Intra-urban Migration*. (Unpublished Thesis: University of Adelaide, Department of Geography).
- Cohen, Lizabeth. 2019. *Saving America's Cities*. (NY: Farrar, Straus, and Giroux).
- Danielsen, Bartley R. and Joshua Fairbanks, Jing Zhao. 2014. "School Choice Programs: The Impacts on Housing Values." *Journal of Real Estate Literature* <https://ssrn.com/abstract=2539242>
- DeLuca, Stefanie. 2007. "All Over the Map: Explaining the Educational Outcomes of the Moving to Opportunity Program." *Education Next* 7:4. <https://www.educationnext.org/all-over-the-map/>
- DeRoche, Tim. 2020. *A Fine Line*. (Los Angeles, CA: Redtail Press).
- Doyle, Denis and Douglas Munro. 1997. *Reforming the Schools to Save the City* (Baltimore: The Calvert Institute).
- Graham Elspeth. 1985. "Problems of Modelling Intraurban Migration." In: *Espace, populations, sociétés, migrations et urbanisation - Migrations and cities*. pp. 215-222.
DOI : <https://doi.org/10.3406/espos.1985.1031>
- Ewing R., R. Pendall, and D. Chen. 2002. *Sprawl scores for 83 metropolitan regions* (Washington, DC: Smart Growth America).
- Freeman, James. 2019. "Elizabeth Warren's Debt Warning." *Wall Street Journal* (July 23) <https://www.wsj.com/articles/elizabeth-warrens-debt-warning-11563923558>
- Gillham, Oliver. 2002. *The Limitless City: A Primer on the Urban Sprawl Debate* (Washington, DC: Island Press).

- Jaffe, Eric. 2014. "The U.S. Cities That Sprawled the Most (and Least) Between 2000 and 2010." <https://www.citylab.com/equity/2014/06/the-us-cities-that-sprawled-the-most-and-least-between-2000-and-2010/372105/>
- Kimelberg, Shelley M. and Chase M. Billingham. 2013. "Attitudes toward Diversity and the School Choice Process: Middle-Class Parents in a Segregated Urban Public School District." *Urban Education* 48:2 p198-231.
- Laidley, Thomas. 2016. "Measuring Sprawl: A New Index, Recent Trends, and Future Research" *Urban Affairs Review* 52:1: p 66 –97. <https://doi.org/10.1177/1078087414568812>
- McKoy, Deborah L. and Jeffrey M. Vincent. 2008. "Housing and Education: The Inextricable Link," in *Segregation: The Rising Costs for America*, edited by James Carr and Nandinee Kutty. Boca Raton, FL: CRC Press.
- Merrifield, J., and N. Gray. 2009. *An Evaluation of the CEO Horizon, 1998-2008, Edgewood Tuition Voucher Program*. Mimeographed. <https://faculty.business.utsa.edu/jmerrifi/evp.pdf>
- Merrifield, J., and N. Gray. 2013. "School Choice and Development: Evidence from the Edgewood Experiment," *Cato Journal* 33:1, p 127-142.
- Merrifield, J., K Adzima, T. Nesbit, and H. Gunasekara. 2011. "The Property Value Effects of Universal Tuition Vouchers," *Journal of Housing Research* 20:2, p 225-238.
- Merrifield, John. 2019. *School System Reform: How and Why is a Price-less Tale* (Murrells Inlet, SC: Covenant Press).
- Newman, P. and J. Kenworthy. 1989. "Gasoline Consumption and Cities: a Comparison of US Cities with a Global Survey and its Implication." *Journal of the Am Planning Association* 55:1, p 24–37.
- Nguyen-Hoang, Phuong, and John Yinger. "The capitalization of school quality into house values: A review." *Journal of Housing Economics* 20.1 (2011): 30-48.
- Orfield, Gary. 1996. "Metropolitan School Desegregation: Impacts on Metropolitan Society." *Minnesota Law Review* 1356, p 825-873.
- Passmore, Sam. 2002. "Education and Smart Growth: Reversing School Sprawl for Better Schools and Communities." Funders Network: https://www.fundersnetwork.org/files/learn/education_smart_growth_tpaper.pdf
- Resnik, David B. 2010. "Urban Sprawl, Smart Growth, and Deliberative Democracy." *American Journal of Public Health* 100:10: p 1852–1856.
- Rose, Todd. 2016. *The End of Average* (New York: HarperOne).
- Sarason, Seymour. 1997. *How Schools Might be Governed, and Why* (New York: Teachers College Press).
- Schaller, Bruce. 2019. "What Urban Sprawl Is Really Doing to Your Commute." <https://www.citylab.com/perspective/2019/09/worst-cities-traffic-congestion-commuting-time-transit-data/597262/>
- Schneider, Jack. 2017. "The Urban School Stigma." *The Atlantic* <https://www.theatlantic.com/education/archive/2017/08/the-urban-school-stigma/537966/>
- Simmons, James. 1968. "Changing Residence in the City: A Review of Intra-urban Mobility." *Geographical Review* 58:4, p 622-651. <https://www.jstor.org/stable/212686>
- Wong, Alia. 2018. "Parents are Biased Even Against 'Quality' Urban Schools." *The Atlantic* <https://www.theatlantic.com/education/archive/2018/12/urban-schools-white-parents/577843/>